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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,884	03/23/2005	Toku Ishii	F-8527	4422
28107	7590	12/14/2005	EXAMINER	
JORDAN AND HAMBURG LLP 122 EAST 42ND STREET SUITE 4000 NEW YORK, NY 10168			LEE, JINHEE J	
			ART UNIT	PAPER NUMBER
			2831	

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/523,884	ISHII ET AL.	
	Examiner	Art Unit	
	Jinhee J. Lee	2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0205,0505</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 8-10, 15 and 17/15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8/1 and claim 8/2, recites the limitation "the columnar portions" in line 3.

There is insufficient antecedent basis for this limitation in the claim.

Claim 8/4, recites the limitation "the coupling portions" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 9/1 and claim 9/2, recites the limitation "the columnar portions" in line 3.

There is insufficient antecedent basis for this limitation in the claim.

Claim 9/4, recites the limitation "the coupling portions" in line 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim 10/1 and claim 10/2, recites the limitation "the columnar portions" in line 3.

There is insufficient antecedent basis for this limitation in the claim.

Claim 10/4, recites the limitation "the coupling portions" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 15, recites the limitation "wherein in place of the process of obtaining the intermediate molded component" in line 2-3. This is confusing and indefinite. This claim seems to negate some limitations in the prior claims. Clarify.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3/1, 8/1, 10/1 and 12/1 are rejected under 35 U.S.C. 102(b) as being anticipated by Clouet et al. (US005922155A).

Re claim 1, Clouet et al. discloses a small-diameter coaxial cable comprising a central conductor (4), an insulated covering layer (5) arranged on the outer periphery of the central conductor and having air gaps (52) continuous along the longitudinal direction, and an outer conductor layer (6) arranged on the outer periphery of the insulated covering layer; said insulated covering layer including an inner annular portion (51) covering the outer periphery of the central conductor, a plurality of coupling portions (53) extending outward from the inner annular portion and an outer annular portion (54) connecting the outer peripheral edges of the coupling portions to each other, the coupling portions defining the peripheral direction of the air gaps (see figure 1).

Re claim 3/1, Clouet et al. discloses a small-diameter coaxial cable, wherein the outer annular portion is formed of a resin capable of being plated with a metal, and the outer conductor layer is formed by plating a metal. Note that the method of forming a device is not germane to the issue of patentability of the device itself. Therefore, this

limitation "outer conductor layer is formed by plating a metal " has not been given patentable weight.

Re claim 8/1, Clouet et al. discloses a small-diameter coaxial cable, wherein a plurality of the coupling portions and a plurality of the columnar portions are extended radially at equal angular intervals in the cross section while at the same time being extended along the longitudinal axial direction of the small-diameter coaxial cable with the same intervals (see figure 1).

Re claim 10/1, Clouet et al. discloses a small-diameter coaxial cable, wherein the annular portion, the coupling portions and the columnar portions are formed by extruding fluoro resin such as FEP, PFA or PTFE or synthetic resin such as APO (amorphous polyolefin) or PEN (polyethylene naphthalate) (see column 7 lines 30-35).

Re claim 12/1, Clouet et al. discloses a small-diameter coaxial cable, wherein a protective covering layer (7) is formed on the outer periphery of the outer conductor layer.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 2-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clouet et al.

Re claim 2, Clouet et al. substantially discloses a small-diameter coaxial cable as set forth in claim 1 above. Clouet et al. does not explicitly disclose wherein the inner annular portion and the coupling portions combined with the outer annular portion, the inner annular portion combined with the coupling portions and the outer annular portion, or the outer annular portion is formed in two layers of different types of resin. Examiner takes official notice that use of two different type of resin as insulator is well known for use in the electrical applications. Furthermore, applicants have presented no explanation that use of this particular material or configuration of this material is significant or is anything more than one of numerous embodiments. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use wherein the inner annular portion and the coupling portions combined with the outer annular portion, the inner annular portion combined with the coupling portions and the outer annular portion, or the outer annular portion is formed in two layers of different types of resin in order to have separate layers, since it has been held to be within the

general skill of a worker in the art to select known materials on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Re claim 3/2, note that Clouet et al. discloses a small-diameter coaxial cable, wherein the outer annular portion is formed of a resin capable of being plated with a metal, and the outer conductor layer is formed by plating a metal. Note that the method of forming a device is not germane to the issue of patentability of the device itself. Therefore, this limitation "outer conductor layer is formed by plating a metal " has not been given patentable weight.

Re claim 4, Clouet et al. discloses a small-diameter coaxial cable comprising a central conductor (4), an insulated covering layer (5) arranged on the outer periphery of the central conductor and having air gaps (52) continuous along the longitudinal direction, and an outer conductor layer (6) arranged on the outer periphery of the insulated covering layer; said covering layer including an annular portion (51 for example) covering the outer periphery of the central conductor, one or more columnar portions (ribs) (53) extending outward from the annular portion. Clouet et al. does not disclose that the outer conductor layer is arranged to be in contact with the outer periphery of the columnar portions, and one or more air gaps continuous along the longitudinal direction are formed on the inner side of the outer conductor layer. However, it would have been obvious to modify the device of Clouet et al. with different types of configurations since Applicants have presented no explanation that this particular configuration of "t the outer conductor layer is arranged to be in contact with the outer periphery of the columnar portions, and one or more air gaps continuous

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along the longitudinal direction are formed on the inner side of the outer conductor layer" is significant or is anything more than one of numerous configurations. A person having ordinary skill in the art would have found it obvious to modify the device of Clouet et al. to the claimed configuration of the outer conductor layer that is arranged to be in contact with the outer periphery of the columnar portions, and one or more air gaps continuous along the longitudinal direction are formed on the inner side of the outer conductor layer for the purpose of providing a smaller cable. A change in shape or configuration is generally recognized as being within the level of ordinary skill in the art. *In re Daily*, 149 USPQ 47 (CCPA 1976).

Re claim 5, Clouet et al. substantially discloses a small-diameter coaxial cable as set forth in claim 4 above. Clouet et al. does not explicitly disclose wherein the outer conductor layer is formed of a hollow compressed stranded wire. Examiner takes official notice that use of hollow compressed stranded wire material is well known in the electrical applications. Furthermore, applicants have presented no explanation that use of this particular material or configuration of this material is significant or is anything more than one of numerous embodiments. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use wherein the outer conductor layer is formed of a hollow compressed stranded wire, since it has been held to be within the general skill of a worker in the art to select known materials on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Re claim 5, Clouet et al. discloses a small-diameter coaxial cable, wherein the outer conductor layer is formed of a hollow compressed stranded wire.

Re claim 6, the method of forming a device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

Re claim 7, the method of forming a device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

Re claim 8/2 and 8/4, note that Clouet et al. discloses a small-diameter coaxial cable, wherein a plurality of the coupling portions and a plurality of the columnar portions are extended radially at equal angular intervals in the cross section while at the same time being extended along the longitudinal axial direction of the small-diameter coaxial cable with the same intervals (see figure 1).

Re claim 9/2 and 9/4, Clouet et al. discloses a small-diameter coaxial cable as set forth in claims 2 and 4 respectively above. Clouet et al. does not disclose that wherein the coupling portions and the columnar portions are formed spirally along the longitudinal direction. However, it would have been obvious to modify the device of Clouet et al. with different types of configurations since Applicants have presented no explanation that this particular configuration of "wherein the coupling portions and the columnar portions are formed spirally along the longitudinal direction" is significant or is anything more than one of numerous configurations. A person having ordinary skill in the art would have found it obvious to modify the device of Clouet et al. to the claimed configuration of wherein the coupling portions and the columnar portions are formed spirally along the longitudinal direction for the purpose of providing optimum level of

crosstalk. A change in shape or configuration is generally recognized as being within the level of ordinary skill in the art. *In re Daily*, 149 USPQ 47 (CCPA 1976).

Re claim 10/2 and 10/4, note that Clouet et al. discloses a small-diameter coaxial cable, wherein the annular portion, the coupling portions and the columnar portions are formed by extruding fluoro resin such as FEP, PFA or PTFE or synthetic resin such as APO (amorphous polyolefin) or PEN (polyethylene naphthalate) (see column 7 lines 30-35).

Re claim 11/1 and 11/4, Clouet et al. substantially discloses a small-diameter coaxial cable as set forth in claims 1 and 4 above. Clouet et al. does not explicitly disclose, wherein the insulated covering layer occupies not less than 10% of the area of the air gaps in the cross section. It would have been an obvious matter of design choice to use the insulated covering layer that occupies not less than 10% of the area of the air gaps in the cross section, since such a modification would have involved a mere change in the dimensions or proportion of a component. A change in dimensions or proportion is generally recognized as being within the level of ordinary skill in the art. *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984).

Re claim 12/4, note that Clouet et al. discloses a small-diameter coaxial cable, wherein a protective covering layer (7) is formed on the outer periphery of the outer conductor layer.

Re claim 13, Clouet et al. substantially discloses a method of fabricating a small-diameter coaxial cable, comprising: a covering die including a central hole for insertion of the central conductor therethrough and a resin discharge portion having a

circular annular portion formed on the outer periphery of the central hole and a plurality of radial slits extending radially outward from the outer periphery of the circular annular portion is used, after which the outer conductor layer and the protective covering layer are sequentially formed on the outer periphery of the insulated covering layer. Clouet et al. does not disclose that the central conductor is inserted through the central hole while at the same time molding by extruding the melted thermoplastic resin, with a draft, from the resin discharge portion thereby to obtain an intermediate molded component including an inner annular portion covering the outer periphery of the central conductor and a plurality of coupling portions extending outward from the inner annular portion and similar in shape to the die, after which the intermediate molded component is introduced to the head of a melt extruder, and the outer annular portion is covered by extrusion on the coupling portions by an annular covering die thereby to form the insulated covering layer having the air gaps. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have wherein the central conductor is inserted through the central hole while at the same time molding by extruding the melted thermoplastic resin, with a draft, from the resin discharge portion thereby to obtain an intermediate molded component including an inner annular portion covering the outer periphery of the central conductor and a plurality of coupling portions extending outward from the inner annular portion and similar in shape to the die, after which the intermediate molded component is introduced to the head of a melt extruder, and the outer annular portion is covered by extrusion on the coupling portions by an annular covering die thereby to form the

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insulated covering layer having the air gaps, since it has been held that more than mere change in order of performing process steps is necessary for patentability. *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946).

Re claim 14, Clouet et al. substantially discloses a method of fabricating a small-diameter coaxial cable, comprising: a central conductor covered by an extrusion with the thermoplastic resin melted in annular fashion, with a draft, by an annular covering die thereby to obtain an intermediate molded component having an inner annular portion covering the outer periphery of the central conductor, after which the outer conductor layer and the protective covering layer are sequentially formed and covered on the outer periphery of the insulated covering layer. Clouet et al. does not disclose that after covering the central conductor providing the step of using a die including a central hole, an annular portion and a resin discharge portion having a plurality of radial holes extending radially from the inner periphery of the annular portion, the intermediate molded component is inserted through the central hole while extruding the melted thermoplastic resin from the resin discharge portion with a draft thereby to form an outer annular portion and a plurality of coupling portions extending to the center, thereby forming the insulated covering layer having the air gaps. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have after covering the central conductor providing the step of using a die including a central hole, an annular portion and a resin discharge portion having a plurality of radial holes extending radially from the inner periphery of the annular portion, the intermediate molded component is inserted through the central hole while

extruding the melted thermoplastic resin from the resin discharge portion with a draft thereby to form an outer annular portion and a plurality of coupling portions extending to the center, thereby forming the insulated covering layer having the air gaps, since it has been held that more than mere change in order of performing process steps is necessary for patentability. *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946).

Re claim 15 (as best understood), Clouet et al. substantially discloses a method of fabricating a small-diameter coaxial cable as set forth in claim 14 above. Clouet et al. does not expressly disclose, wherein in place of the process of obtaining the intermediate molded component, a dispersion in which the thermoplastic resin particles is dispersed in a dispersion medium (liquid) is coated or impregnated around the central conductor, after which the dispersion medium is evaporated thereby to form an annular covering on the central conductor or an annular covering is formed by powder coating thereby to form the inner annular portion and obtain an intermediate molded component having the inner annular portion covering the outer periphery of the central conductor. It would have been an obvious matter of design choice to have in place of the process of obtaining the intermediate molded component, a dispersion in which the thermoplastic resin particles is dispersed in a dispersion medium (liquid) is coated or impregnated around the central conductor, after which the dispersion medium is evaporated thereby to form an annular covering on the central conductor or an annular covering is formed by powder coating thereby to form the inner annular portion and obtain an intermediate molded component having the inner annular portion covering the outer periphery of the central conductor, since applicant has not disclosed that

using this process solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the molding process as is disclosed in Clouet et al.

Re claim 16, Clouet et al. substantially discloses a method of fabricating a small-diameter coaxial cable comprising a central conductor, an insulated covering layer arranged on the outer periphery of the central conductor and having air gaps continuous along the longitudinal direction, an outer conductor layer arranged on the outer periphery of the insulated covering layer and a protective covering layer arranged on the outer periphery of the outer conductor layer, comprising: using a die having a central hole for inserting the central conductor therethrough and a plurality of T-shaped split holes arranged adjacently to each other on the outer periphery of the central hole, after which the outer conductor layer and the protective covering layer are sequentially formed and covered on the outer periphery of the insulated covering layer. Clouet et al. does not expressly disclose, the central conductor is inserted through the central hole while at the same time extruding the melted resin from the central hole and the T-shaped split holes thereby to form the insulated covering layer having the air gaps continuous along the longitudinal direction on the outer periphery of the central conductor. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the central conductor that is inserted through the central hole while at the same time extruding the melted resin from the central hole and the T-shaped split holes thereby to form the insulated covering layer having the air gaps continuous along the longitudinal direction on the outer periphery of the central

conductor, since it has been held that more than mere change in order of performing process steps is necessary for patentability. *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946).

Re claim 17, Clouet et al. substantially discloses a method of fabricating a small-diameter coaxial cable as set forth in claims 13-16 above. Clouet et al. does not explicitly disclose, wherein the outer conductor layer is formed by plating a metal. It would have been an obvious matter of design choice to have the outer conductor layer is formed by plating a metal, since applicant has not disclosed that using this process solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the process as is disclosed in Clouet et al.

Re claim 18, Clouet et al. substantially discloses a method of fabricating a small-diameter coaxial cable, comprising a covering die including a central hole for inserting a central conductor therethrough and a resin discharge portion having an annular portion and a plurality of radial slits extending radially outward from the outer periphery of the annular portion and an outer conductor layer is formed by covering a hollow compressed stranded wire or winding a metal foil, a laminate film or the like or covering by extending a copper pipe on the outer periphery of the columnar portions, after which an outer covering layer is formed on the outer periphery of the outer conductor layer. Clouet et al. does not explicitly disclose that the central conductor is inserted through the central hole while at the same time molding by extrusion, with a draft, the melted thermoplastic resin from the resin discharge portion thereby to obtain an intermediate molded component (insulated core) similar in shape to the die and

having an inner annular portion covering the outer periphery of the central conductor and a plurality of coupling portions extending outward from the inner annular portion, which intermediate molded component is supplied continuously so that an outer conductor layer is formed by covering a hollow compressed stranded wire or winding a metal foil, a laminate film or the like or covering by extending a copper pipe on the outer periphery of the columnar portions. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the central conductor is inserted through the central hole while at the same time molding by extrusion, with a draft, the melted thermoplastic resin from the resin discharge portion thereby to obtain an intermediate molded component (insulated core) similar in shape to the die and having an inner annular portion covering the outer periphery of the central conductor and a plurality of coupling portions extending outward from the inner annular portion, which intermediate molded component is supplied continuously so that an outer conductor layer is formed by covering a hollow compressed stranded wire or winding a metal foil, a laminate film or the like or covering by extending a copper pipe on the outer periphery of the columnar portions, since it has been held that more than mere change in order of performing process steps is necessary for patentability. *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946).

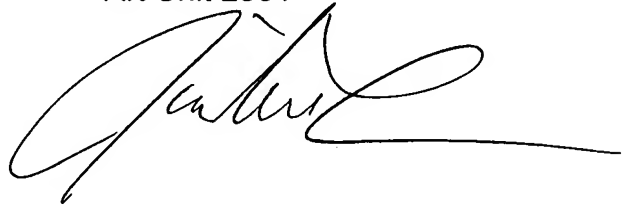
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jinhee J Lee whose telephone number is 571-272-1977. The examiner can normally be reached on M, T, Th and F at 6:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A Reichard can be reached on 571-272-2800 ext. 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jinhee J Lee
Patent Examiner
Art Unit 2831

A handwritten signature in black ink, appearing to read 'Jinhee J Lee', with a long horizontal flourish extending to the right.

jjl